LOGS

BROWN TO GRAY. THE CLAYSTONE IS TUFFACEOUS. THE LIME-		From 7370 feet to 8025 feet the Lithology is thinly interbedded siltstone, sandstone and claystone in varying proportions, including occasional <u>Inoceramus</u> fragments and carbonaceous material.	
FROM 8270 TO 11,700 FEET, THE DOMINANT LITHOLOGY IS MASSIVE SANDSTONE BEDS, POSSIBLY AS THICK AS 1000 FEET, WITH OCCASIONAL THINLY INTERBEDDED SILTSTONE AND CLAYSTONE. THE DEPOSITIONAL ENVIRONMENT IS LARGELY INDETERMINATE. THE SANDSTONES ARE LIGHT GRAY, FINE—TO MEDIUM-GRAINED, OCCASIONALLY COASSE-GRAINED, ARKOSIC, HARD AND TIGHT. ZEOLITE FRACTURE FILLING IS EVIDENT IN THE SAMPLES. THE SILTSTONE AND CLAYSTONE ARE MEDIUM GRAY TO GRAY, LOCALLY CALCAREOUS AND OCCASIONALLY EXHIBIT FINE CARBONACEOUS LAMINATIONS. CORRELATIVE WITH THE MASSIVE SANDSTONES OF THE MANNEY. FORMATION EXPOSED ON THE INISKIN PENINSULA TO THE MORTHWEST. THE INTERVAL FROM 11,700 FEET TO 12,387 FEET TOTAL DEPTH IS CHARACTERIZED BY THINLY INTERBEDDED SANDSTONE, SILTSTONE, CLAYSTONE LINESTONE AND COCCASIONAL TUFF BEDS. PROBABLE MARRIME DEPOSITIONAL ENVIRONMENT. THE SANDSTONE IS FINE TO VERY FINE GRAINED, GRAY TO GRAY BROWN, ARKOSIC, FIRM TO HARD. THE SCHANGE AND CANSTONE IS TUFFACEOUS. HE LIME—STONE IS TAN TO BROWN, AGELILACEOUS, GRADING TO LIMY CLAYSTONE IN TO BROWN, AGELILACEOUS, GRADING TO LIMY CLAYSTONE, AND IS PROBABLY PRESENT AS THIN BEDS AND CONCRETIONS. THIS INTERVAL IS POSSIBLY CORRELATIVE MITH THE UPPERMOST ROCKS OF THE CHNITMA FORMATION, WHICH IS EXPOSED ON THE INISKIN PENINSULA.	~~~	ORIGIN AND CONSIST OF INTERBEDDED SILTSTONE, SANDSTONE, CLAYSTONE AND TUFF IN VARYING PROPORTIONS. THE SILTSTONE IS DARK, HARD, SILICEOUS AND THINLY BEDDED. THE SANDSTONE IS LIGHT TO MEDIUM GRAY, FINE- TO MEDIUM-GRAINED, ARKOSIC, WITH SCATTERED GRANULES & ROCK FRAGMENTS. ASHY CLAYSTONE IS PRESENT AS THIN INTERBEDS, AS ARE THE GRAY TO GREEN,	
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OPEN-FILE REPORT

SEA LEVEL S.P. (Mv) WATER DEPTH-		SANDSTONE POROSITY (Φ) AND	LITHOLOGIC DESCRIPTIONS
N PALEOCENE EOCENE PAR Y PALEOCENE PAR	40 Microsec/Ft GM/CC GM/	PERMEABILITY (K) FULL CORE SIDEWALLS (A) K AVERAGES FOR INTERVAL SHOWN (M) md.	THE ABSENCE OF LITHOLOGY LOGS AND THE SALTY DRILLING FLUID ABOVE 1551 FEET MAKE LITHOLOGIC INTERRETATION UNCERTAIN IN THIS INTERVAL. IT APPEARS TO CONSIST OF QUATERNARY, GLACIALLY DERIVED DEPOSITS DOWN TO 546 FEET, AND THEN OF A CLAYSTONE, SILTSTONE AND SANDSTONE SEQUENCE SIMILAR TO THE EOCENE ROCKS BELOW. THINLY BEDDED CLAYSTONE, SILTSTONE AND SANDSTONE SEQUENCE SIMILAR TO THE EOCENE ROCKS BELOW. THINLY BEDDED CLAYSTONE, SILTSTONE, SANDSTONE SEQUENCE SIMILAR TO THE EOCENE ROCKS BELOW. THINLY BEDDED CLAYSTONE, SILTSTONE, SANDSTONE SEQUENCE SIMILAR TO TYPICAL WEST FORELAND FORMATIONS. NONMARINE SIMILAR TO TYPICAL WEST FORELAND FORMATION LITHOLOGY. SANDSTONE AND CONGLOMERATE WITH MINOR CLAYSTONE AND SILTSTONE, OCCASIONAL THIN COAL SEAMS AND TUFFACEOUS CLAYSTONE. NONMARINE. CARBONACEOUS MATERIAL RARE. THE SANDSTONE IS DOMINANTLY MEDIUM TO COARSE-GRAINED, CONTAINS HIGH PERCENTAGES OF VOLCANIC ROCK FRAGMENTS AND IS SILTY OR CLAYEY. GRADES INTO CONGLOMERATE, WHICH IS PRESENT IN BEDS UP TO 65 FEET THICK. THE CONGLOMERATE IS DOMINANTLY COMPOSED OF VOLCANIC, PLUTONIC AND METAMORPHIC CLASTS AND FRAGMENTS, COMMONLY WITH A TIGHT SILTY TO CLAYEY MATRIX AND LITTLE OR NO PORSITY OR PERMEABILITY. SIMILAR IN LITHOLOGY TO THE PALEOCENE POCKS EXPOSED ON THE SURFACE IN THE RED GLACIER AND CHINITNA BAY VICINITY, WEST SIDE OF COOK INLET.
EST RICHT PANNONNY MANNONNY MA	With the the transfer of the second s	24 48	CLAYSTONE, SILTSTONE AND SANDSTONE WITH OCCASIONAL THIN COAL SEAMS. THE DEPOSITIONAL ENVIRONMENT VARIES FROM NONMARINE TO MARGINAL MARINE TO OCCASIONALLY MARINE. THE FIRST OCCURRENCE OF INOGERAMUS PRISMS IS NOTED AT 2720 FEET. THE CLAYSTONE IS COMMONLY GRAY, WITH CARBONACEOUS LAMINATIONS, OCCASIONALLY BENTONITIC. THE SILTSTONE IS COMMONLY BROWN TO GRAY-BROWN AND INCLUDES CARBONACEOUS LAMINATIONS. OCCASIONALLY SANDY. THE SANDSTONE IS GENERALLY GRAY TO WHITE AND MEDIUM- TO FINE-GRAINED, CONTAINS HIGH PERCENTAGES OF QUARTZ AND FELDSPAR, AND IS COMMONLY FILLED WITH CLAY MATRIX. THOSE SANDSTONES WHICH ARE MORE COARSE HAVE RETAINED SOME POPOSITY AND ARE EVIDENT ON THE DUAL INDUCTION LOG IN THE INTERVALS 3490-3700 FEET AND 4200-4500 FEET. PETROGRAPHIC STUDIES SHOW THAT THE SANDSTONES HAVE BEEN ALTERED IN VARYING DEGREES BY THE AUTHIGENIC ALTERATION OF FELDSPARS AND VOLCANIC ROCK FRAGMENTS INTO, ZEOLITES AND CLAYS. THESE ROCKS ARE THE AGE-EQUIVALENT OF EXPOSURES OF THE KAGUYAK FORMATION IN THE CAPE DOUGLAS AND KAMISHAK HILLS AREAS.
C E E	And have received and the second of the seco		The interval from 4730-5058 feet is marine claystone, medium gray, occasionally silty or sandy, non-carbonaceous, containing Inoceramus prisms. **MAJOR UNCONFORMITY**
O A N. A TOOREA	mande of the second of the sec	22 141	SANDSTONE, CLAYSTONE AND SILTSTONE, MORE INDURATED THAN ABOVE. SOME FISSILE SHALE NOTED ON SAMPLE LOG. MARINE DEPOSITIONAL ENVIRONMENT. THE SANDSTONES ARE GENERALLY FINE TO VERY FINE GRAINED, GRAY TO GREEN-GRAY, HIGH IN OUARTZ AND FELDSPAR CONTENT, LOCALLY CALCAREOUS AND INCLUDE SOME CLAY MATRIX. THE AUTHIGENIC GROWTH OF CLAYS AND ZEOLITES IN THE PORE SPACE IS AT AN INTERMEDIATE STAGE. THESE ROCKS, INCLUDING THE ZEOLITIZED LOWER CRETACEOUS ROCKS BELOW, MAY BE, AT LEAST IN PART, AGE-EQUIVALENTS OF THE LOWER CRETACEOUS ROCKS EXPOSED IN THE KAMISHAK HILLS AREA.
NOTE RESISTIVITY CURVE ON BELOW 685		3 0	The interval from 6450-6850 feet is largely marine claystone and siltstone with occasional thinly interbedded sandstone, and frequent concentrations of Inoceramus prisms which compose as much as 25 percent of the sample in the interval 6570-6580 feet. From 6850 to 7370 feet, the lithology is fine- to medium-grained, gray to green-gray arkosic sandstone grading to pebbly sandstone, with thin interbeds of claystone and siltstone. Locally abundant Inoceramus prisms form thin calcarenite stringers. Below 6350 feet most of the pore space in the rock is filled with authigenic clay and zeolite.
S S	The second of th		FROM 7370 FEET TO 8025 FEET THE LITHOLOGY IS THINLY INTERBEDDED SILTSTONE, SANDSTONE AND CLAYSTONE IN VARYING PROPORTIONS, INCLUDING OCCASIONAL INOCERAMUS FRAGMENTS AND CARBONACEOUS MATERIAL. FROM 8025 TO 8270 FEET THE ROCKS ARE OF MOSTLY MARINE ORIGIN AND CONSIST OF INTERBEDDED SILTSTONE, SANDSTONE, CLAYSTONE AND TUFF IN VARYING PROPORTIONS. THE SILTSTONE IS DARK, HARD, SILICEOUS AND THINLY BEDDED. THE SANDSTONE IS LIGHT TO MEDIUM GRAY, FINE- TO MEDIUM-GRAINED, ARKOSIC, WITH SCATTERED GRANULES & ROCK FRAGMENTS. ASHY CLAYSTONE IS PRESENT AS THIN INTERBEDS, AS ARE THE GRAY TO GREEN, HARD, SILICEOUS TUFF LAYERS.
THONIA R S S I C C C C C C C C C C C C C C C C C	Level of the state	2 0	From 8270 to 11,700 feet, the dominant lithology is massive sandstone beds, possibly as thick as 1000 feet, with occasional thinly interbedded siltstone and claystone. The depositional environment is largely indeterminate. The sandstones are light gray, fine— to medium-grained, occasionally coarse-grained, arkosic, hard and tight. Zeolite fracture filling is evident in the samples. The siltstone and claystone are medium gray to gray, locally calcareous and occasionally exhibit fine carbonaceous laminations. Correlative with the massive sandstones of the Nakwek Formation exposed on the Iniskin Peninsula to the Northwest.
	Marine San And San San		THE INTERVAL FROM 11,700 FEET TO 12,387 FEET TOTAL DEPTH IS CHARACTERIZED BY THINLY INTERBEDDED SANDSTONE,

ARCO OPERATED LOWER COOK INLET COST #1 WELL **BLOCK 489, TRACT 46** LOWER COOK INLET, ALASKA